

REMARKS

Claims 31 and 37 are being amended as further indicated in the claims themselves to amend certain punctuation.

The Office Action “acknowledged” Applicants’ amendments and arguments filed November 24, 2008 and indicated that they had been fully considered. The Office Action further indicated that any rejection and/or objection not specifically addressed in the Office Action had been withdrawn.

Applicants note that the filing on November 24, 2008, was an Appeal Brief and that no amendments were filed as part of that brief.

Applicants also recognize that the present Office Action was issued instead of an Examiner’s Answer to the Appeal Brief. Nevertheless, Applicants further note that the documents applied in the present Office Action are among those applied in the prior Office Action, and that the present Office Action does not address various distinctions over those documents raised in that Appeal Brief. To the extent any rejections based on those documents are maintained, Applicants respectfully request that the Examiner explain how the distinctions raised in the Appeal Brief as well as any distinctions raised in this Amendment have been accounted for when maintaining those rejections.

35 U.S.C. 103

At the outset, Applicants note that U.S. Patent No. 5474971 lists only a single inventor (Sandell) and will thus be referred to herein as Sandell; whereas U.S. Patent No. 5714157 lists multiple inventors, of which inventor Sandell is the first listed, and will thus be referred to herein as Sandell et al. (i.e., Sandell and others). This is in conformance with the cover sheets of the patents themselves. Accordingly, despite the terminology used in the Office Action, Applicants respectfully suggest that in order to reduce the opportunity for confusion, these two patents be referred to in accordance with terminology used herein, which as already noted, reflects the traditional designation adopted by the USPTO in printing the documents.

A.

In the Office Action, claims 1-12, 15-33, 36 and 37 were rejected as being unpatentably obvious under 35 U.S.C. 103(a) over Sandell in view of U.S. Patent No. 5270288 to Reibel et al. After discussing “Applicant’s Invention” and Sandell, and noting that Sandell fails to teach “at least about equivalent 50% of base”, the Office Action concluded it would have been obvious to one of ordinary skill in the art at the time of invention (1) to combine the teachings of Sandell to include (1) preparing a composition as a water wet extrudable paste since Sandell teaches a process for preparing extrudable water-wet

pastes and drying the granules and (2) equivalent 50% of base in the composition (suggesting one would have been motivated to manipulate ranges during routine experimentation to discover the optimum or workable range since Sandell provides the general range). Applicants did not note reference to Reibel et al. in this rejection.

Applicants note that the characterization of the claims in the Office Action is not complete, and that the claims should therefore be more fully considered with respect to their scope. For example, with regard to the characterization of claims 4-8, 22-26, 31 and 33-35 in the Office Action, Applicants note that (a) claims 4 and 22 limit the base to certain carbonates and phosphates of not only sodium but also potassium, (b) Claim 31 includes additional inorganic bases and (c) claims 8 and 26 specify not only sodium phosphate, but that the sodium phosphate is in the form of the dodecahydrate; and with regard to the characterization of Claim 18 in the Office Action, Applicants note that in view of the dependency of this claim on Claim 1, Claim 18 requires at least one active ingredient that is sulfonamide herbicide free acid in addition to at least one active ingredient that is not a sulfonamide.

With regard to the base component, Applicants note that Claim 1 more particularly involves using at least about 50 equivalent % of base selected from inorganic base equivalents having conjugate acid pK_a s at least 2.1 units greater than the highest pK_a of the sulfonamide herbicide free acid component. Thus, for example, based on the data presented in Table A and Table B of the specification, when tribenuron-methyl is the sulfonamide free acid component, sodium hydrogen carbonate would not be a suitable base for such use in conformance with Claim 1, while sodium carbonate would be suitable.

In any event, Applicants have discussed Sandell in Section 1 of the Argument Section of the Appeal Brief, and incorporate that discussion by reference in this Amendment. By way of summary, Applicants submit as further discussed therein:

(a) Sandell's mention of extrusion of a water-wet paste cited in the Office Action is, like Sandell's mention of various other granule preparation methods, in the context of contrasting them to the heat extrusion presented therein;

(b) one skilled in the art would clearly recognize that the premix characteristics presented in Sandell (and the embodiments thereof described therein) relate to a premix specifically designed for the heat extrusion process described therein, and that Sandell does not suggest that the premix is considered suitable for other processes, especially other processes which are not "dry" processes such as water-spraying in a fluidized bed or pan granulation equipment, spray-drying and extrusion of a water-wet paste;

(c) Sandell does not generally teach that one should choose the optional additives cited in the Office Action when the active ingredient is a sulfonamide herbicide acid; and

(d) the examples (examples 5 and 6) in Sandell which use the sulfonylurea metsulfuron-methyl and sodium bicarbonate contain significantly lower "equivalents" of

sodium bicarbonate called for by Claim 1 and represent a use of sodium bicarbonate which would be avoided in the preparation of water-containing paste for paste extrusion.

Applicants submit that it is impermissible within the framework of Section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. See In re Wesslau 147 USPQ 391, 393, 353 F2d 238 (CCPA 1965) and Bausch & Lomb v. Barnes-Hind/Hydrocurve, Inc. 230 USPQ 416, 796 F2d 443 (Fed. Cir. 1986).

As explained in the Appeal Brief, Applicants submit that reliance on KSR International Co. v. Teleflex Inc. for a rejection based on Sandell is misplaced. Applicants further note that Sandell is entitled WATER-DISPERSIBLE GRANULAR AGRICULTURAL COMPOSITIONS MADE BY HEAT EXTRUSION (emphasis added), Sandell notes in the Abstract indicates that no water is added in the process, and Sandell discloses components capable of acting as an extrusion aid when heat is applied and components specifically designed to generate gas in the presence of water. As explained further in the Appeal Brief, while the court in KSR found that a person having ordinary skill in the art could have combined a pedal of the type under consideration with a pedal position sensor in a fashion encompassed by the claim under consideration and would have seen the benefits in doing so (see USPQ2d at 1398), Applicants submit that it is clearly not evident how one of ordinary skill would see the benefit of picking a sulfonamide herbicide from the list of actives in Sandell and an inorganic base having a suitable pKa from the list of optional additives in Sandell and combine them using an advantageous equivalent % relationship along with sufficient water to make a suitable paste for paste extrusion.

Applicants submit that reliance on In re Aller to support this rejection is also misplaced. Applicants submit that the present claims cannot be viewed as optimization of the Sandell process because (in addition to other distinctions) the present claims relate to processes for preparing paste-extruded compositions (and compositions prepared by such processes) while the Sandell invention relates to processes that involve extruding a dry premix at an elevated temperature (and compositions prepared by such processes); and the present application discloses that Applicants' invention can be successfully used to provide compositions that have significantly improved spray equipment clean-out properties while Sandell does not even mention the challenge of spray equipment clean out. Applicants submit that both the suggestion that Applicant's methods should be carried out and an expectation of success must be found in the prior art, not Applicant's disclosure. See In re Dow Chemical 5 USPQ 2d. 1529, 1531, 837 F2d. 469 (Fed. Cir. 1988). Applicants submit that Sandell clearly does not suggest that paste-extruded sulfonamide herbicide compositions having both

excellent water dispersibility and significantly improved spray equipment clean-out properties can be obtained by the method of Claim 1.

In sum, Applicants submit that there are significant differences between the Sandell disclosure and the invention presently claimed, and Sandell does not fairly suggest to one of ordinary skill in the art that one should pick and choose certain features for the heat extrusion technology described by Sandell and selectively transfer those features to the very different paste extrusion technology encompassed by the present claims.

Applicants have also discussed further distinctions between certain dependent claims and Sandell in Section 1 of the Argument Section of the Appeal Brief, and incorporate that discussion by reference in this Amendment. Applicants wish to particularly note the use of sodium phosphate in the form of the dodecahydrate, a form which has been found to be particularly advantageous for the claimed paste extrusion process (see claims 8 and 26), the use of the specific combination including sulfmeturon-methyl and sodium phosphate (see Claim 12), and the further use of a saccharide component in combination with other components (see Claim 15).

B.

In the Office Action, claims 13, 14, 34 and 35 were also rejected as being unpatentably obvious under 35 U.S.C. 103(a) over Sandell in view of Reibel et al.. After noting that Sandell does not teach thifensulfuron-methyl and tribenuron-methyl (although various other “sulfonamides” are taught) the Office Action indicated that “Reibel et al. teaches the combination of arylsulphonylureas with the sulfonamides which includes thifensulfuron-methyl and tribenuron-methyl in formulated pastes” and concluded that it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Sandell with Reibel et al. to further include the sulfonamides thifensulfuron-methyl and tribenuron-methyl because Reibel et al. teaches that they are sulfonamides and may be formulated into pastes.

Claims 13, 14, 34 and 35 all dependent claims and are thus submitted to be allowable based on dependency upon an allowable claim. Applicants have also discussed further distinctions between claims 13 and 14 and the Sandell/Reibel et al. combination in Section 1 of the Argument Section of the Appeal Brief, and incorporate that discussion by reference in this Amendment. These distinctions are submitted to apply as well to claims 34 and 35, respectively; and it is further noted that by virtue of their dependency from Claim 32 claims 34 and 35 further involve use of a disaccharide. Applicants further submit that the Reibel et al. reference to “pastes” cited in the Office Action would be understood by one of ordinary skill to refer to a paste formulation suitable for distribution as a herbicide rather than a paste used for the preparation of a dried paste-extruded extrudate. Moreover, Applicants submit there is no disclosure in Reibel et al. that the other herbicides of the mixtures referenced at

column 5, lines 28-68 should be in the same form as the active compounds of the Reibel et al. invention (e.g., the mixture could be a mixture of granules where each active is contained in a separate granule type, each type being prepared by its own process). Applicants also point out that Reibel et al. does not overcome the distinctions between the present claims and Sandell discussed above.

In sum, Applicants submit that there are significant differences between the Sandell disclosure and the invention presently claimed, and neither Sandell nor Reibel et al. fairly suggest to one of ordinary skill in the art that one should selectively pick a herbicide (thifensulfuron-methyl or tribenuron-methyl) mentioned among many suitable mixture candidates in Reibel et al. and then pick and choose certain features for the heat extrusion technology described by Sandell and selectively transfer those features to the very different paste extrusion technology encompassed by the present claims. Applicants submit that there is particularly no suggestion to combine thifensulfuron-methyl with sodium carbonate as provided in claims 13 and 34 or to combine tribenuron-methyl with sodium carbonate as provided in claims 14 and 35; and that the present application (rather than Sandell and/or Reibel et al.) discloses that the claimed combination of sodium carbonate with thifensulfuron-methyl and the claimed combination of sodium carbonate with tribenuron-methyl can be successfully used to provide compositions that have significantly improved spray equipment clean-out properties.

C.

In the Office Action, claims 13, 14, 34 and 35 were also rejected as being unpatentably obvious under 35 U.S.C. 103(a) over Sandell in view of Sandell et al.. After again noting that Sandell does not teach thifensulfuron-methyl and tribenuron-methyl (although various other “sulfonamides” are taught) the Office Action indicated that Sandell et al. teaches compositions comprising one or more active ingredients selected from the sulfonylurea class of herbicides including sulfometuron methyl, thifensulfuron-methyl and tribenuron-methyl and concluded that it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Sandell and Sandell et al. to further include the sulfonamides thifensulfuron-methyl and tribenuron-methyl because Sandell et al. teach that they are sulfonamides and may be formulated into pastes.

Claims 13, 14, 34 and 35 are all dependent claims and are thus again submitted to be allowable based on dependency upon an allowable claim. Applicants have also discussed further distinctions between claims 34 and 35 and the Sandell/ Sandell et al. combination in Section 4 of the Argument Section of the Appeal Brief, and incorporate that discussion by reference in this Amendment. Except for the disaccharide aspect included in claims 34 and 35 by virtue of their dependency from Claim 32, these distinctions are

submitted to apply as well to claims 13 and 14, respectively. Applicants also note that the Sandell et al. is entitled WATER-DISPERSIBLE GRANULAR AGRICULTURAL COMPOSITIONS MADE BY HEAT EXTRUSION (emphasis added); that Sandell et al. also recognizes extrusion of water-wet paste as one of the methods that are different from the heat extrusion process described in Sandell et al. (see e.g., column 2, line 55 – column 3, line 4); and that Sandell et al. teaches that paste extrusion requires a drying step (see column 2, line 65) while the advantages of noneffervescent heat-extruded granular compositions described in Sandell et al. include their method of production which is nonaqueous and requires no drying step (see column 7, lines 10-16). Accordingly, Applicants submit that even assuming arguendo that there is some basis for relating certain teachings about the heat extrusion process in Sandell et al. to the teachings about the heat extrusion process in Sandell, such a connection would be based on the common use of heat extrusion process in those disclosures.

Applicants further submit that one skilled in the art would clearly recognize that the premix characteristics presented in Sandell et al. (and the embodiments thereof described therein) relate to a premix specifically designed for the heat extrusion process described therein, and that Sandell does not suggest that the premix is considered suitable for other processes, especially other processes which are not “dry” processes such as water-spraying in a fluidized bed or pan granulation equipment, spray-drying and extrusion of a water-wet paste. More particularly, Sandell et al. compositions involve a urea and a urea modifier which in combination with the urea forms an extrusion aid which allows extrusion to take place at temperatures much below the melting point of pure urea (see e.g., column 2, lines 26-30). Accordingly, Applicants note that although there are examples actually involving inorganic base and sulfonamide herbicides, these examples all involve premixes that include urea and urea modifiers (as themselves and/or as part of preblends), a combination which one of ordinary skill would recognize from Sandell et al. as formulated for the Sandell et al. heat extrusion process.

Furthermore, Applicants note that the heat extrusion processes of Sandell and Sandell et al. both involve ingredients that soften and/or melt at elevated temperatures (see e.g., column 13, lines 13-58 in Sandell and column 5, lines 20-28 & 49-52 in Sandell et al.) and generally involves cooling and hardening (see e.g., column 5, line 2 in Sandell and column 3, lines 40-45 in Sandell et al.). Applicants submit that this interaction of diluent, binder and/or extrusion aid with any other ingredients (including actives) during heat extrusion clearly results in a product having attributes derived from that process.

In sum, Applicants submit that there are significant differences between the Sandell disclosure and the invention presently claimed, and neither Sandell nor Sandell et al. fairly suggest to one of ordinary skill in the art that one should selectively pick a particular sulfonyurea herbicide (thifensulfuron-methyl or tribenuron-methyl) from the herbicides and

herbicide classes mentioned in Sandell et al. and/or Sandell and then pick and choose certain features for the heat extrusion technology described by Sandell and/or Sandell et al. and selectively transfer those features to the very different paste extrusion technology encompassed by the present claims. Applicants submit that there is particularly no suggestion to combine thifensulfuron-methyl with sodium carbonate as provided in claims 13 and 34 or to combine tribenuron-methyl with sodium carbonate as provided in claims 14 and 35; and that the present application (rather than Sandell and/or Sandell et al.) discloses that the claimed combination of sodium carbonate with thifensulfuron-methyl and the claimed combination of sodium carbonate with tribenuron-methyl can be successfully used to provide compositions that have significantly improved spray equipment clean-out properties.

As noted above, the documents applied in the present Office Action are among those applied in the prior Office Action. Nevertheless, despite the time and expense associated with appeal and the preparation and filing of an appeal brief, Applicants are again in a position of pointing out various distinctions of the present claims over those documents. In view of the foregoing discussion, allowance of the above-referenced application is again respectfully requested.

Respectfully submitted,

/David E. Heiser/

DAVID E. HEISER
ATTORNEY FOR APPLICANTS
Registration No.: 31,366
Telephone: (302) 892-1926
Facsimile: (302) 892-7949

Dated: July 14, 2009